1137. What Do We Know? Teaching Medical Students to Deal with Uncertainty as a Pandemic Unfolds

Margaret E. Bauer, PhD, Daniel Trujillo, PhD, Cameron Brown, Martiza Gomez, M.Ed, Darrell Davidson, MD, PhD, Ryan F. Relich, PhD, D(ABMM), MLS(ASCP)CM SM(CM), and Bradley L. Allen, MD, PhD, FIDSA, FACP

Abstract

Background

The global COVID-19 pandemic has had a major impact on medical student education. As the pandemic spread nationwide, numerous universities shut down with only days' notice, and medical students were removed from all patient care settings and restricted from campuses. Yet, the need and curiosity of these future physicians to understand this new disease was great, including how to interpret and integrate rapidly evolving information on the underlying viral and immune mechanisms, pathophysiology, and epidemiology. Time students spent away from patient care settings presented an opportunity to rapidly develop and deliver new curriculum covering SARS-CoV-2 and COVID-19.

Methods

A team of students and faculty at Indiana University developed a Fundamentals of COVID-19 course that included up-to-date information on the virology, immunology, and pathophysiology of COVID-19. The course was delivered online, with both synchronous and asynchronous activities. Virology and immunology of the coronavirus family, including current knowledge to-date of SARS-CoV-2, were delivered using a series of readings and brief videos, followed by a small group exercise that required students to choose and present to their peers a paper from the scientific literature on COVID-19. A similar approach was used to deliver content about the pathophysiology of COVID-19. To place the COVID-19 experience in context of other pandemics, students researched and educated their small group cohort on another historical pandemic.

Results

To measure course effectiveness, we administered a pre-course survey gauging students' self-confidence in their knowledge of these topics; the same survey was administered after completion of the course. Surveys from 645 (89% of enrolled) 3rd and 4th year medical students who completed both surveys were analyzed. Results showed that the course elicited a 57% increase ($p< 0.001$) in students' confidence in their knowledge of COVID-19 virology and immunology and a 64% increase ($p< 0.001$) in knowledge of the pathophysiology.

Conclusion

Data showed that the asynchronous content and group activities were successful in engaging and educating the students on foundational knowledge of COVID-19 and were an effective approach to rapidly evolving information when faced with a novel disease.

Disclosures

All Authors: No reported disclosures